BIOS

ASPB
ALBERTA SOCIETY
OF PROFESSIONAL BIOLOGISTS

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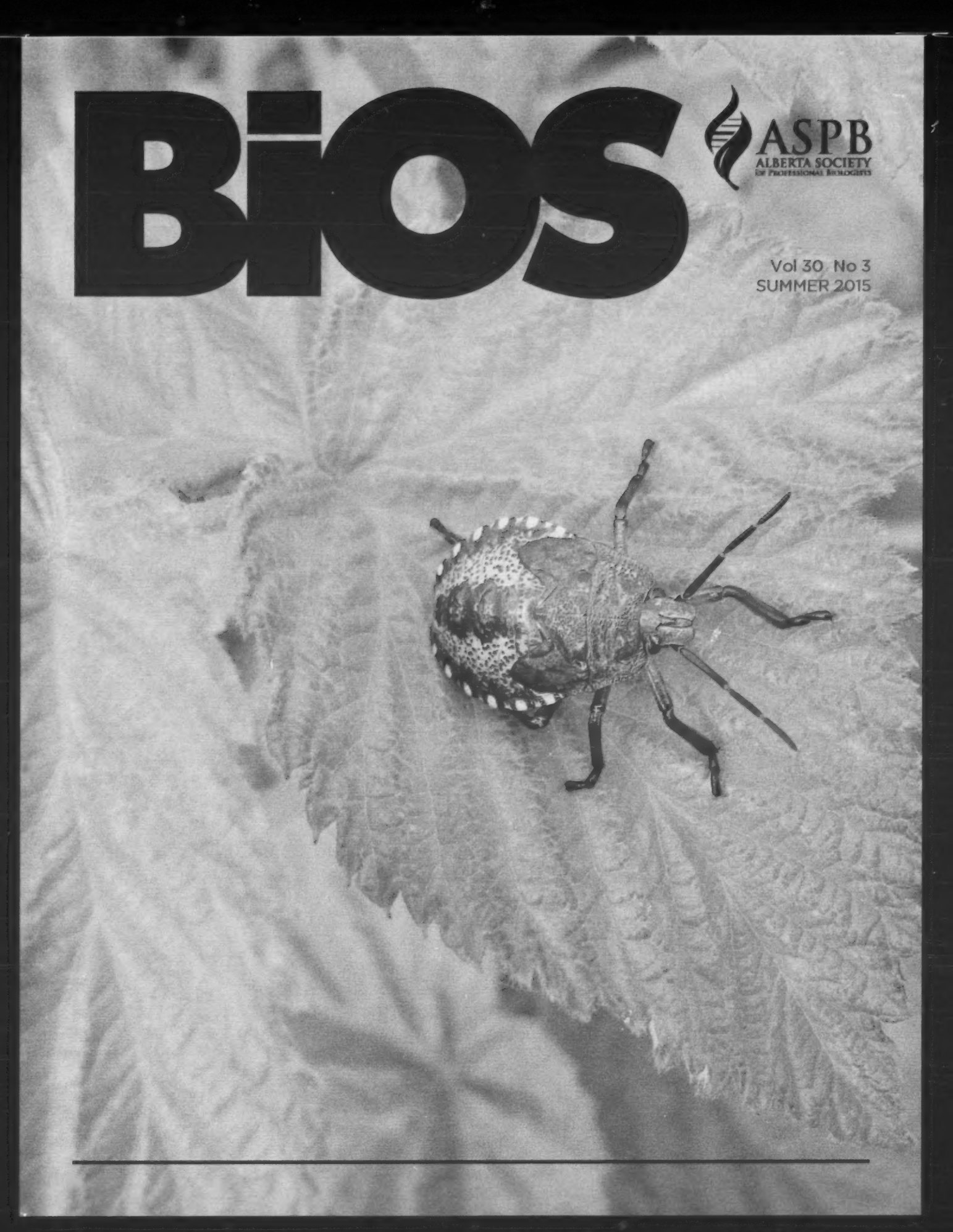

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BIOS

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Articles or comments are welcomed and should be sent to announcements@aspb.ab.ca

...notes from the E.D.

Our 40th Anniversary conference at Canmore lived up to its billing as "Witness to Change", with opening session speakers Lorne Fitch (Grandfather's Trout-Grandkid's Memories: Perspectives Over Time for Alberta's Fish Populations) and Susan Patey LeDrew (Collaboration and Species at Risk) setting the tone. They were followed by then-MLA Danielle Smith and Robert Simieritsch each addressing (from their own unique perspectives) the 2013 climate-extreme flood events in southwestern Alberta, certainly emphasizing the "Witness to Change" theme!

Indeed, all components of the Conference were successful, with well-attended sessions throughout, remarkable support from over 30 sponsors, and well over 200 delegates in attendance. The silent art auction raised close to $1000, and is assisting the process of setting up a scholarship with Lethbridge College.

Many changes are going on behind the scenes at your Society this summer. We have engaged the services of a new Mentoring Coordinator (Nanette Richards, P. Biol.), who has a strong vision for our mentoring program and is currently assessing our program and reviewing feedback from participants. And, of course, we have established a new Registrar for the ASPB, Sheila Leggett, P. Biol. (Our former Registrar Bette Beswick, P. Biol., retired from that position after many years' devoted service to our organization.)

One of the big challenges through which we are currently working our way is the development of guidelines for Technologists in Biology to enter into ASPB membership. Your Registration Committee, new Registrar and staff have their work cut out for them, to be sure, but as we move into our next forty years, these are exciting times!

Jennifer Sipkens, ASPB Executive Director

About our cover photo:

The photograph of this elegantly-marked stinkbug was selected as the winner of photo contest held in conjunction with the ASPB 40th Anniversary Conference. Entries were judged by professional photographer Bob Cook of Branded Visuals at Bragg Creek.

Photographer Adam Kraft writes: "As for the story behind the photo, I took it in July 2014 while conducting a vegetation survey of a prairie pothole wetland north of Stettler, AB. While I am not an entomologist (I had help in determining its family, and am still unsure of its identity), I was fascinated by the stinkbug's intricate markings and how they coordinated nicely with the leaf it was standing on. It was a great reminder that while 'lower organisms' such as insects don't always receive the attention that most vertebrates do, they are just as interesting, beautiful, and important to ecosystems.

"The vegetation survey is part of the field work for my M.Sc. degree with Dr. Rebecca Rooney from the University of Waterloo. My research involves quantifying the response of wetland vegetation communities to agriculturally-altered water and soil conditions. The broad goal for the project, which has several other grad students working on it, is to characterize the biological integrity of non-permanent prairie pothole wetlands and develop assessment tools to facilitate the implementation of the new provincial wetland policy."

In conversation...

Incoming President Shaun Toner looks forward to challenges, opportunities

Shaun Toner, P. Biol., has been a member of the ASPB since 2004 and has actively volunteered on several conference committees since 2006. In 2009, he joined the registration committee and since 2012, he has acted as the Board liaison for the committee. When not volunteering for the ASPB, Mr Toner works as an environmental scientist for Matrix Solutions in Calgary. His main role with Matrix is to manage complex multi-disciplinary environmental projects, including pre-development regulatory applications, wetland monitoring programs, and even spills in aquatic environments. In his spare time, Mr Toner likes to be outdoors so when there is no snow, he camps, gardens, golfs, fishes and hikes. BIOS interviewed Mr Toner by a combination of telephone and email:

BIOS: *Congratulations on your new role with the ASPB! You have taken the helm at a very busy time for the Society and the profession of biology in general; looking back to the Annual General Meeting in April, a motion was passed to amend the Society bylaws to include "Registered Technologist in Biology" as a non-regulated member category, along with Biological Technologist in Training. Can you enlarge a little on the significance of this motion?*

ST: Thank you. Yes, it is a pretty busy and exciting time for the Society as we have successfully passed motions to amend our bylaws to expand our membership categories to include Registered Technologist in Biology. Including Biological Technologists into the Society will ultimately increase the protection of the public of Alberta as technologists will now have the option to be recognized as practitioners who adhere to the experience and ethical standards set by the Society. Additionally, Biological Technologists will be provided with a credential that is currently sought by both employers and the government of Alberta.

BIOS: *Is the Society currently accepting applications for Registered Technologist in Biology?*

ST: Accepting biological technologists into the Society will require some planning, as the registration process can be quite complex. The Society will be working with technical institutes throughout the province to develop academic requirements to fairly and consistently accept biological technologists into the Society. The Society will also be looking at establishing experience criteria and a registration process that is transparent and streamlined to simplify the application process. This, of course, will take some time to develop; therefore, at this time applications are not being accepted. The Society's Executive Director and Registrar will be hard at work to develop registration standards for Biological Technologists in the upcoming year. Stay tuned!

Continued on page 4

Registered Technologists added to ASPB bylaws

The Alberta Society of Professional Biologists voted to add the following non-regulated membership categories to the Society's bylaws at its Annual General Meeting on March 30, 2015: Registered Technologist in Biology and Biological Technologist in Training. The Society had already approved the membership categories at a special general meeting in May, 2014, but bylaw changes must be voted upon at an annual meeting.

Once a Technologists Registration Committee has been formed and a handbook and guidelines developed, the website will be updated and the Society can begin the intake of technologists. This process is not expected to be completed until this autumn; details will be made available on the website and through the Alberta Biologists Monthly E-Newsletter.

In conversation... continued from page 3

BIOS: *Notwithstanding the economic challenges, there are some exciting opportunities for the ASPB, especially as it begins this process of welcoming Registered Technologists into membership following the recent Annual General Meeting. Do you expect to see significant uptake by technologists over the upcoming year?*

ST: There have been several inquiries in the past from employers, the government, and Biological Technologists themselves, requesting that the Society consider adding a registered technologist category to the ASPB's mandate. Regardless of the changing economy in Alberta, a high demand remains for Biological Technologists. Many prospective members work within a regulatory framework that is not overly dependent on the economy. For example, environmental services to monitor for compliance with operational approvals will still be required by industry, unless they decide to shut in production and completely reclaim their active development sites. Therefore, I believe that a significant uptake of biological technologists will occur over the next couple of years.

BIOS: *Many Alberta biologists have built career paths in the energy sector, which is feeling the impact of lower oil and gas prices. What are you hearing from your colleagues about their short and long term futures?*

ST: The slump in oil prices is definitely having an effect on the long-term development plans of the oil and gas resource extraction industry. However, the energy industry is already dealing with difficulties getting the current energy resource production to consumer markets, due to a lack of pipeline capacity. Although the drop in the world price was sudden, I believe it will allow both industry and the government to look at new ways to reduce the potential and/or perceived harm to the environment from the energy industry. After all, oil prices are slowly recovering and given the weakness of the Canadian dollar, the returns on these commodities to the industry in Alberta may not be as bad as first expected. That being said, the current slump in world oil prices will probably be sustained for several years as consumer demand remains weak due to depressed economies in other parts of the world.

When speaking with my colleagues and clients, there is definitely a push to maximize value and increase efficiency on work being done to support existing energy projects. Since the need to transport energy commodities to market is still unresolved, this is probably a good time for industry to continue pursuing safe and environmentally sustainable transportation options to get our resources to market. So, although there might be some weakness in the future development plans for resource extraction, there are definitely several other market sectors that remain relatively strong, and which employ Professional Biologists and Registered Technologists in Biology.

BIOS: *You have been a member of the board of directors of the ASPB through a period of substantial growth in the membership, and also through the transition to Policy Governance® at the board and management level. As President, do you see the implementation of this new governance model as an important asset moving forward and managing growth?*

ST: I am very excited to have been part of the Board as we moved to a Policy Governance model. This has allowed the Board to start looking at long-term plans for the Society, rather than dealing with operational issues. Establishing an ASPB office in Calgary and directly administering the organization under the watchful eye of our Executive Director will not only save the Society money in the long run but it also allows the Society to be effectively managed and will be key to the continued growth of the Society.

BIOS: *Alberta woke up one morning in early May with a substantially-changed political reality. Do you foresee any delays to the review of the Professional Biologist Regulations under which the ASPB operates?*

ST: This is a very good question. Before the election, we were working with the Government of Alberta to review and update our Regulations, which is done periodically. With a completely different party leading the government, it will be really interesting to see how the change in ideology might affect our Regulations.

BIOS: *What do you foresee as Board priorities during your term as President?*

ST: During my term as President, I would like to continue working collaboratively with our Board of Directors and our Executive Director to serve the needs of our membership, while protecting the public. Now that we are organized under Policy Governance, the Board will be conducting a survey this fall to inform the development of a long-term plan for the Society given the expected future growth of our membership.

BIOS: *Thank-you!*

Consultation document:

Standard for Vegetation Surveying

A group of biologists in Alberta has been trying to address problems associated with vegetation surveying. The biologists believe that data collected for environmental assessments can be inadequate and that biodiversity is being lost in the Province without ever being recorded.

The group proposes a standardized approach to vegetation surveying and releasing a minimum set of data into the public domain. The group also proposes surveyors take responsibility for the data collected which would make the standard self-regulating. You are invited to read this proposed standard and offer comments, support and criticism.

The current document is available at http://www.seriousaboutscience.org/standard . It will be updated monthly based on feedback received and the final document will be published at the end of October 2015.

Sheila Leggett appointed ASPB Registrar

Sheila Leggett, P. Biol., P. Ag., has been appointed Registrar of the Alberta Society of Professional Biologists, replacing long-serving Registrar Bette Beswick, P. Biol. By way of introduction, Ms Leggett writes the following:

I have been a member of ASPB since 1982....a long time ago. I have been fortunate to have a broad range of opportunities in environmental biology ranging from field worker to regulatory decision maker. My practice has included working as a regulator, a consultant, an educator and initially, as an employee of a large oil and gas firm.

My technical areas of expertise mainly focused on soils and re-vegetation, including contaminant assessments and their biological implications, reclamation and remediation, and research that established specific soil contaminant guidelines. I have published in these areas as well as developed and taught a course on Petroleum Site Decommissioning at the University of Calgary Continuing Education Program. I am registered as both a P. Biol. and P. Ag. in Alberta.

I have sat on the Boards of private consulting firms, the ASPB, the Canadian Society of Environmental Biologists, Alberta Ecotrust, the Natural Resources Conservation Board and completed my term as Vice-Chair of the National Energy Board in 2013. I also was a Council Member for the Alberta Institute of Agrologists.

In addition to accepting the position of Registrar for ASPB, I sit on the Board of the Alberta Environment, Monitoring, Evaluation and Reporting Agency (AEMERA.org) and Telus Spark- Calgary's Science Center and consult through Tower Peak Consultants Ltd.

I am honored to serve the ASPB membership as its Registrar. These are important times for ASPB as the regulator of professional biology practices in Alberta. I look forward to helping increase transparency and to further define the framework for the consideration of new members to the ASPB.

Province responds to ASPB request for regulatory changes

At a special general meeting of the Alberta Society of Professional Biologists (ASPB) held in May, 2014, the membership voted in favour of adding Registered Biologists into ASPB. This category was proposed for those who are short a few courses in biology but still wish to be a part of ASPB, with the intent that they would be able to participate as a society member while they upgrade their biology courses and then reapply to become a P. Biol.

The Government of Alberta has stated it is unable to regulate this stream of membership due to labour mobility issues, so while people falling into this category will be able to be members of ASPB and be able to participate as full members, they will not be regulated under the Professional Biologist Regulation.

Another item voted upon at the special general meeting concerned proposed changes to the experience category, specifically adding environmental systems to the practice of biology definition.. The government has responded, and stated that it "...does not see the rationale in adding to the definition or defining a new term. We believe that the proposed addition of "environmental systems", (which would include activities such as reclamation and remediation), is unnecessary as these activities already fall under the definition of "biological sciences" and under the biological discipline of "Environmental Biology." (Sue Welke in a communication to the ASPB Executive Director on Feb. 10, 2015.)

As a result, the ASPB board has developed a definition for environmental biology: examines ecosystems, focusing on how living organisms interact with their environment, and is working on incorporating the expanded definition into the registration committee handbook so there is guidance to the registration committee in assessing applicants.

Pagination error in spring edition of *BIOS*

Readers who receive the hard-copy version of *BIOS* will undoubtedly have noticed that there were two page fives in place of one page five and one page six, with the result that the first page of the interview with Anne Naeth disappeared. For this we apologize both to our readers and to Dr Naeth!

Lesson learned: you can't always trust technology (the error happened at the pre-press level, between the designed copy and the printer itself) and was not caught until after the magazine went out in the mail. Solution moving forward: we have changed printing services to a printing house in Calgary, where we can easily ensure that ASPB staff have a final "read" of the magazine before it comes off the press and is labeled for mailing.

Edmonton Science Fair celebrates 55 years of encouraging youth in science

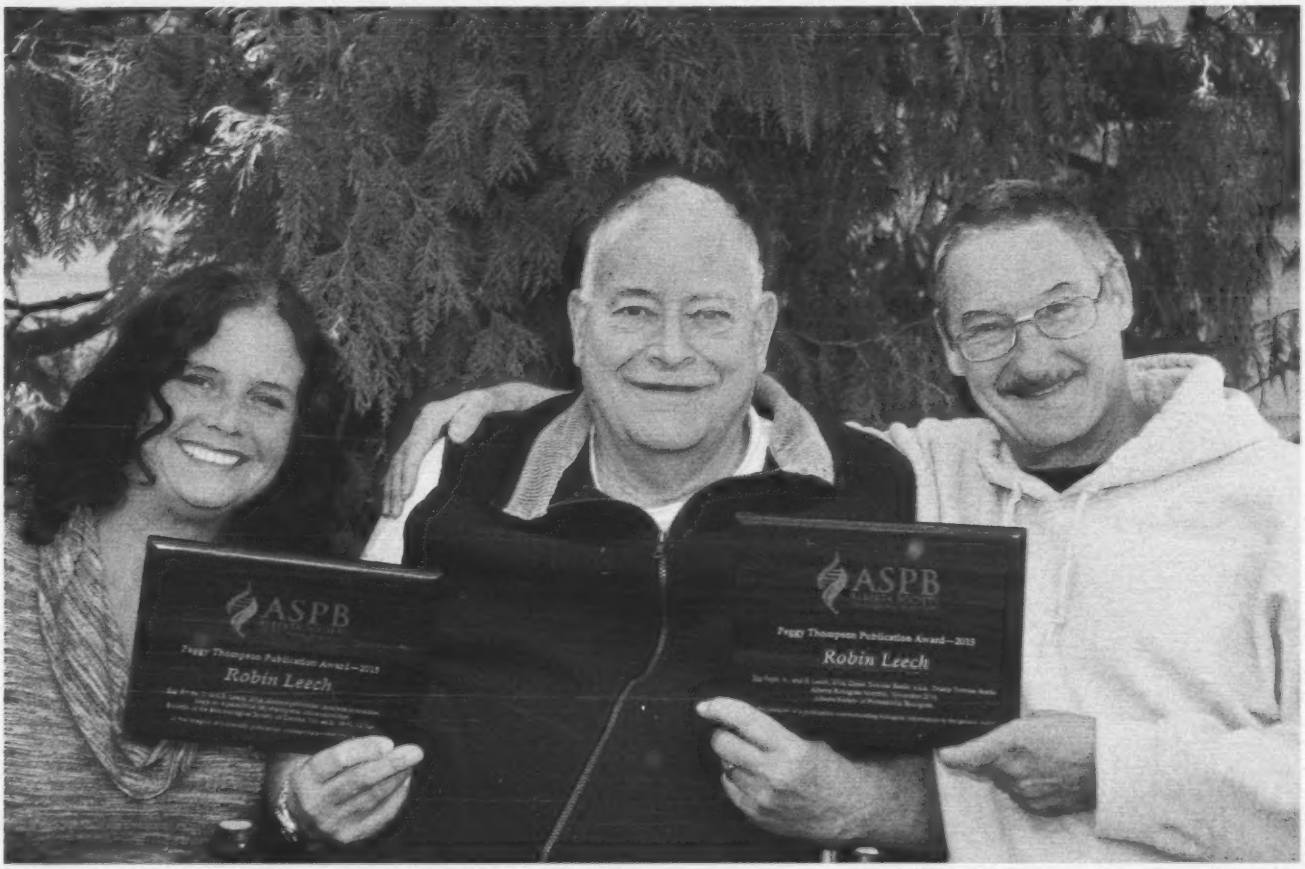
The 2015 edition of the Edmonton Regional Science Fair (ERSF) was held April 11 and 12 this year, the 55th anniversary of the ERSF, and according to ERSF Vice President and Awards Chair Michele Moscicki, this year was a great success, with participant numbers (280 students presenting 201 projects) surpassing last year's 190 projects.

Ms Moscicki told *BIOS* that the students came from 41 schools, which includes home-schooled students. She emphasized the importance of support from organizations like the Alberta Society of Professional Biologists which make the fair possible: "The ERSF committee would like to take this opportunity to thank you for your continuous support of the fair and for encouraging youth in science," she wrote in a letter to the ASPB.

The ASPB Award was presented to Sydney Comfort of the Argyll Home School Centre for her project "Is Seeing Believing?". An Honourable Mention was accorded to Skye Sekulich of Busby School for her project "Bathtime for the Birds".

Sydney Comfort was presented the ASPB Award by ERSF Council Secretary Paula Hawrysz.

Skye Sekulich was presented an ASPB Award Honourable Mention from ERSF Council Secretary Paula Hawrysz.



ROBIN LEECH SWEEPS 2014 ASPB PUBLICATION AWARDS

Robin Leech, P. Biol., received both ASPB Peggy Thompson Publication Awards, announced at the ASPB 40th Anniversary Conference in Canmore, AB. Mr Leech is shown with contributing photographers Joanne Bovee (left) and Al Popil (right).

...Forty years on

Evolution: it's a biological thing...

An essay by Charles Macmichael, P. Biol.

Charles Macmichael has been involved with the ASPB since moving to Alberta in 2007. Initially involved in planning the Society's conferences, Mr Macmichael then moved into being the President-elect in 2010, serving on the board as President in 2011/12 and finishing his time on the board in the Spring of 2014. Through his involvement in conference planning and the board, he has seen the ASPB accomplish much, including hiring its first employees, having web-enabled AGMs,

finding its own office space and moving to a full time executive director with support staff. Mr Macmichael continues to stay connected to the organization through the conferences and life-long friendships he has formed with those in the membership and on the board. With a background in population ecology, he works as an environmental consultant, predominantly focused on environmental assessment and permitting work, for Stantec Consulting Ltd. in Calgary. When not at work he loves to be on the soccer field, hiking up a peak or skiing down one in the Rockies.

As the organization passes its fortieth year we look ahead with even more enthusiasm and momentum. This year has already proven that Albertans can embrace and action change. The ASPB got out ahead of the electorate and hit its stride for change with a rebranding, a new website, new membership categories and is on track to crest the 2000 member mark in the very near future. Not unlike turning 40 as a biologist working in Alberta, the organization has gained experience, maturity, and a better sense of self. We aim to continue to learn, evolve and grow in strength, knowledge, depth and understanding of our purpose and the achievement of our goals. The organization continues to be one of which members can be proud, one that avoids the dangers of being idle and which challenges us to consider new ideas and to get involved and find ways to embrace intentional and well-evaluated change.

It is hard not to revisit the election results of this May and be drawn into asking what the dramatic change in government might mean for the practice of professional biology in Alberta and perhaps even western Canada. (The outgoing government had been in power longer than the ASPB has been in existence!) While it is too early to know anything for certain, initial discussions with peers lead me to believe that professionals in all aspects of society in Alberta are going to have more importance - and more of a voice - than ever before.

The new NDP government will look to professions such as ours (and indeed our entire membership in academics, government agencies, NGOs, and private industry) for guidance as it develops policies and puts its stamp on the governance of the province in the context of maintaining its focus as a government for the greater good. The NDP have not yet provided a lot of detail on its environmental platforms, but there is renewed optimism within the ENGOs of Alberta that there could be a political will for action which could provide further opportunities for our members. While the current uncertainty, coupled with low commodity prices, continue to weigh heavily on the economy, the horizon is definitely full of opportunity given the changes that are possible with new leadership.

At the ASPB, the new membership categories speak to the thoughtful involvement of the members, be they on the board or having contributed to the greater discussion on the subject. I know much has been written about the opportunity to include other biological practitioners in the membership, so I will try not to repeat what has already been said. While it is important to maintain the reputation and academic rigour that comes with use of the title Professional Biologist (P. Biol.) it is also important to recognize the many other individuals making meaningful and credible contributions to the practice of biology in Alberta. The most important part of the ASPB mandate as a professional organization in Alberta is to safeguard the public interest; by including others practicing biology and keeping them accountable to the ethics, bylaws and expectations of their peers and the organization, I believe the ASPB is furthering this mandate. Technologists, as an example, are critical to the careful, accurate and defensible collection and analysis of biological information (field, lab or otherwise).

Continued on Page 8

"The most important part of the ASPB mandate as a professional organization in Alberta is to safeguard the public interest..."

Forty Years On... continued from page 7

I am excited to see that the board of directors and the membership have worked well together to follow the path down which they have started, to find reasonable and meaningful ways to include other biological practitioners in the ASPB while continuing to build a solid reputation for the membership and the organization.

I am encouraged by what I see when I ponder the future of professional biology in Alberta. I see an Alberta hungry to try new ways to continue to be hard working, successful, innovative, and increasingly environmentally aware and accountable. I see the ASPB as having grown up successfully through its organizational adolescence some five years ago as it surpassed 1000 members. The Society progressed from being a group of professionals connected by a title, to an organization of professionals connected by their pride in their title and a desire to be a part of something which continues to build profile and purpose, not only for the members but also for the public they serve. Famous Canadian author Lucy Maud Montgomery wrote "It's not what the world holds for you, but what you bring to it." I firmly believe this to be true and I am excited to see more members bringing something to the organization (and as a result, getting more out of it!) I strongly encourage you all to join in this trend, building on the momentum of the past and moving forward with the promise of something bigger and better. I know that you - as have I - will realize the benefits, and your contributions will also provide benefits to others. This is your organization; enjoy it and let the support be mutual. Have a wonderful summer in this outstanding province, getting out of it everything you put into it and more!

Toronto Globe and Mail looks at wildlife biology as a career

In an article published in the Globe and Mail on May 27, 2015, journalist Jared Lindzon looks at the career - and salary ranges - of wildlife biologists. The article is titled *I want to be a wildlife biologist. What will my salary be?*

The article draws heavily on the author's discussions with Michael Kerford, president and chief executive officer of Environmental Careers Organization of Canada (ECO Canada). Mr Kerford points out that "Government bodies at the provincial, federal and municipal levels employ wildlife biologists to provide environmental impact assessments, reintroduce wildlife into reclaimed territory and advise on policy initiatives. Wildlife biologists can also be found in academic instructions and environmental consulting firms, and often specialize in a particular species or geographical region."

Mr Kerford notes that there are biology technician programs available at the college level, but that most wildlife biologists in Canada have a university education. "The baseline would be the undergrad, but a pretty high percentage in all of our scientific and engineering fields within the environment, you're seeing that credential creep, and a lot of people are going back for graduate education," he said. "You have a high degree of master's - and PhD - level biologists working in the environment sector in particular."

Mr Kerford also acknowledges in Mr Lindzon's article that educational requirements vary by project, and are usually set by the professional associations in each province. He also points out that "it's a very patchwork regulatory environment in Canada. It differs by province, and some provinces don't even have a professional biologist designation at all, so it's not a requirement."

According to Lindzon, ECO Canada conducted a survey of those employed in the environmental industry, and found that the average starting salary of wildlife biologists was $47,405 a year. The survey also found that the average salary of wildlife biologists during their fifth year of employment was $75,050. "Once we get to 10 years out, the data is not nearly as precise, because a lot of the time people are not practising in that particular field any more; they're often more in a managerial capacity, so the data gets a little skewed," said Mr Kerford, adding that many wildlife biologists move on to become subject matter experts or project managers. "In either of those paths, after seven to 10 years' experience, you're starting to move towards a six-figure salary."

Mr Kerford says public demands have also put pressure on politicians, who work in tandem with wildlife biologists when drafting regulations. "As regulations get more strict, it requires more scientific data to inform regulations and certainly more work is created to comply with that framework. As these issues become more obvious, and individuals and the general public become more aware of them, it has a positive impact on environmental employment."

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Lethbridge College introduces new course option

The following information was provided to BIOS by Lethbridge College:

Students who are interested in pursuing a Bachelor of Applied Science degree have a new option for their studies at Lethbridge College. The new Bachelor of Applied Science in Ecosystem Management degree was recently approved by the Ministry of Innovation and Advanced Education and is accepting applications for fall 2015.

"Lethbridge College strives to provide engaging learning experiences for our students while meeting the demands of industry," says Centre for Applied Arts and Sciences Dean Dr. Sandy Vanderburgh. "The Ecosystem Management degree is a unique and in-demand credential that will set our graduates up for success in environmental industries using a variety of value-added skills and knowledge."

The new degree is delivered in partnership with Athabasca University (AU) and prepares students to work in the areas of environmental management and restoration, and fish and wildlife management. Students will take one online course with AU per semester and will receive a Lethbridge College degree. The applied degree was designed with ongoing input from environmental industry partners and will integrate applied field and lab skills with theoretical studies.

The Ecosystem Management applied degree also presents a new two-plus-two opportunity for students who have completed Lethbridge College's Renewable Resource Management or Environmental Assessment and Restoration diploma programs. Students can build upon their existing diploma with further experiential and engaged learning and industry-relevant courses. Lethbridge College will also work with other institutions to create new transfer opportunities into the applied degree.

"Ecosystem Management differentiates from traditional bachelors' degrees because the curriculum focuses on industry relevant technical and field skills," says School of Environmental Sciences Chair Dr. Terry Kowalchuk. "Students will also have to acquire non-credit certifications in various field techniques such as all-terrain vehicle operation, water craft operation, WHIMIS, and first aid which will complement their applied degree and give them a competitive edge when they enter the workforce."

The new degree in Ecosystem Management is the first applied degree from an Alberta Comprehensive Community Institution to be vetted by the Campus Alberta Quality Council and is unique because it is the first Bachelor of Applied Science degree to be granted with an applied focus that doesn't have a directed field study. Work to harmonize the credential with professional accreditation requirements is also underway to allow students to seek professional accreditation.

National Bird Project for Canada

by Saikat Kumar Basu, P. Biol.

What is the National Bird of Canada? The question baffles most Canadians from school kids to senior citizens. The most frequent answer that come up in a random survey, throughout the nation, is common loon or Canada goose. The loon, likely because it is inscribed on the Canadian one-dollar coin (the "loonie"), and the Canada goose most probably because it is so numerous and widely visible from the Atlantic provinces to the Pacific region, across central and prairie Canada, and are also widely seen in many places across the vast northerly regions of the nation.

But the correct answer to this perpetual question is - amazingly - a big "NO". Hard to believe but absolutely true:

the second largest nation of the world, a major economy, and an important global partner of the United Nations, has never actually had a nationally-recognized bird emblem over its 150 year history!

Recently The Royal Canadian Geographical Society and the highly acclaimed Canadian Geographic magazine have come up with an innovative National Bird Project to help designate a National Bird for Canada by the year 2017. Through an online voting platform (http://www.canadiangeographic.ca/nationalbird/) they are encouraging Canadians to vote for their favorite avian species to be officially recognized as the National Bird of Canada.

The project has been received with great enthusiasm across the nation and participation has been significant. As of late March, 2015) over 29,000 votes have been cast and the top five avian species on the wish list are as follows:

Continued on Page 10

Over 200 delegates attend ASPB 40th Anniversary Conference

Speakers at the ASPB 40th Anniversary Conference presented to full rooms and enthusiastic audiences in Canmore this spring. (Below, right, Sara Bumstead, P. Biol., kisses the golden cup she was awarded at the pre-conference Monday Night Social, where she won the "Smartest Biologist" contest!)

National Bird Project... continued from page 9

(1) Common Loon (Gavia inmer Brunnich, 1764), (2) Snowy Owl (Bubo scandiacus. Linnaeus, 1758), (3) Gray Jay/ Whiskey Jack (Perisoreus canadensis Linnaeus, 1766), (4) Canada Goose (Branta canadensis Linnaeus, 1758) and (5) Black-capped Chickadee (Poecile atricapillus Linnaeus, 1766). All the top five species mentioned above are currently designated as Least Concern (LC) by IUC.

This is a great opportunity for ASPB members to participate in the project if they have not done so already. There is also an opportunity to submit your personal essay justifying your choice within a maximum 5,000 characters while completing the online voting process. The essays are reviewed, edited and published in the Canadian Geographic online portal.

So, what are you waiting for? Rush to support your favorite avian member from a collection of 450 species nation wide. Who believes that Canada is not rich in her grandeur avifauna!

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ASPB invites volunteer applicants

The Alberta Society of Professional Biologists is inviting interested professional biologists to serve on the Registration Committee and the Practice Review Committee.

Details can be found on the ASPB website (https://www.aspb.ab.ca) in the Current Members - Volunteer Opportunities section.

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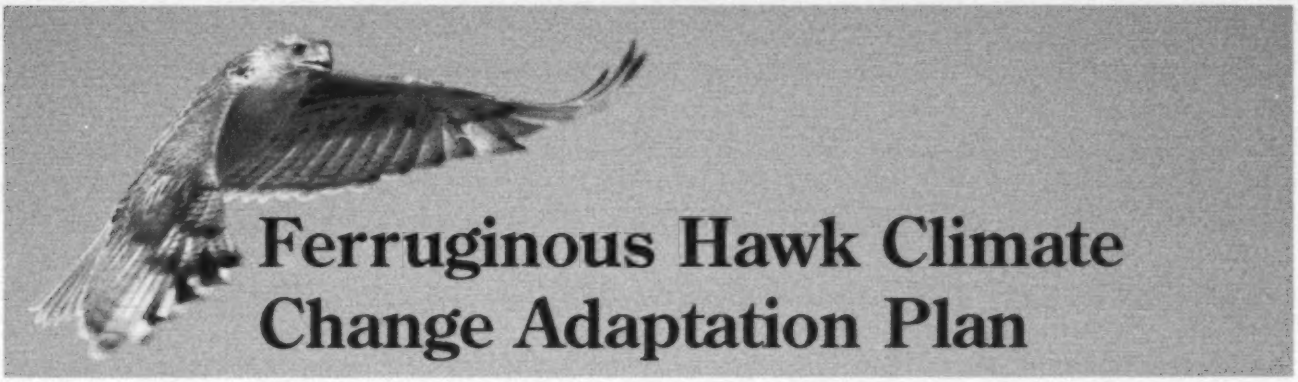

Ferruginous Hawk Climate Change Adaptation Plan

Our cover girl revisited...

The winter edition of BIOS was the first edition to feature a full-page photograph of a young female Ferruginous Hawk. The photographer was Janet Ng, a student member of the ASPB, and the photo was taken while she was involved with a project for the Alberta Biodiversity Monitoring Institute.

Now, the full paper resulting from that project has been released, and the ASPB and BIOS is proud to present its executive summary here, and provide a link to the full paper on our website. All photos in this BIOS feature are by Ms Ng.

Ferruginous Hawk Climate Change Adaptation Plan for Alberta

Christopher C. Shank *(Alberta Biodiversity Monitoring Institute)* and Erin M. Bayne *(Department of Biological Sciences, University of Alberta, Edmonton AB Canada)*

Executive Summary

The Ferruginous Hawk (FEHA) is a specialized, open-country buteo limited to grassland and shrub-steppe environments. The Alberta population has declined precipitously since the early 1990s leading to the species being listed as Endangered under the Alberta Wildlife Act. The Alberta Ferruginous Hawk Recovery Plan 2009 – 2014 identifies climate change as a factor potentially threatening the recovery of the species in Alberta. This report is intended to supplement the provincial Recovery Plan by examining in detail the scope and scale of past and projected changes in climate within the Alberta range of the FEHA, by summarizing current knowledge of the potential effects of climate change on FEHAs, and by exploring the adaptive responses that might be undertaken to allow FEHAs to adapt to a changing climate.

Alberta's climate has been changing rapidly in the recent past with mean annual temperature in the southern part of the province increasing by 0.3°C per decade over the past 30 years. The pace of change is expected to accelerate with temperatures being as much as 2.7°C warmer by the 2050s. The extra energy pumped into the atmosphere by temperature increases will alter precipitation patterns and intensify extremes in temperature, rainfall and wind. All of these factors can be expected to affect the population status of FEHAs.

Contrary to expectations, there is little evidence to suggest average or extreme weather parameters have changed significantly in the Alberta range of the FEHA during the critical spring and summer nesting period. Several published studies and analyses by the authors suggest that prairie summers have not changed in recent decades with respect to mean or extreme temperature, precipitation and wind speed. This appears to be an anomaly relative to other seasons and areas of the Province. However, there is strong consensus over numerous studies that future mean temperature and extreme temperature, rainfall, drought, and wind events will all increase dramatically in the future.

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Ferruginous Hawk distribution in Alberta (courtesy of Government of Alberta).

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The set of climatic conditions currently experienced by FEHAs in Alberta is likely to expand in northwards. The Grassland Region is expected to expand northwards resulting in a reduction in trees and shrubs and a replacement of mid-grasses by short-grasses. Some aspects of these ecological changes are likely to benefit FEHAs and others to present challenges.

Increases in mean temperature, drought, and extreme precipitation, rainfall and wind events may result in changes in disease incidence, breeding asynchrony, increased nestling mortality from exposure and nest collapse, and changes in prey numbers and hunting success all of which have documented or potential population consequences.

Recommendations for mitigating these threats are hampered by inadequate information suggesting that considerably more monitoring and research is required to focus on better understanding the effects of climate change on Richardson's ground squirrels, availability of FEHA nesting substrates, FEHA migration behaviour, breeding chronology and success, and range expansion. The most immediate concrete action that could be undertaken is to enhance the ability of existing nests to withstand extreme weather events and to provide additional weather-resistant nesting opportunities.

The full report is available from the ASPB website at: https://aspb.s3.amazonaws.com/assets/491/

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